

OUTCOMES OF ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE

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Background: There is limited data on the safety of endoscopic retrograde cholangiopancreatography (ERCP) in patients with Inflammatory Bowel Diseases (IBD).

Method: The National Inpatient Sample (NIS) is an inpatient database of approximately 20% of inpatient admissions to nonfederal hospitals in the United States. Data from the years 2009 to 2014 were collected. Patients over 18 years with IBD who had undergone ERCP (n=1519) were included. Case-control 2:1 matching was done based on gender, age, race and Charlson Comorbidity Index (CCI). Complications and mortality were evaluated for IBD patients against controls. Logistic regression analyses were done to obtain adjusted odds ratios (aOR).

Results: Between 2009 and 2014 there were 1519 patients with IBD aged older than 18 years who had undergone an ERCP. Age, sex, CCI, and race were all matched without statistically significant differences between cases and controls. We used binary logistic regression models for mortality and post ERCP complications. Results are presented in Table 1.

We found significant differences between IBD and non-IBD patients for post-ERCP pancreatitis (aOR 13.38, 95% CI 1.45-1.24) and post-ERCP Infection (aOR 1.21, CI 1.01-1.45). However, there was no significant differences between IBD and non-IBD patients for post-ERCP mortality (aOR 1.29, 95% CI 0.73-2.71), post-ERCP cholecystitis (aOR 2.11, 95% CI 0.76-5.84), post-ERCP perforation (aOR 4.01, 95% CI 0.36-44.27), or post-ERCP bleeding (aOR 0.72, 95% CI 0.28-1.83).

Conclusion: IBD is an independent risk factor for post-ERCP pancreatitis and post-ERCP infection. However, post-ERCP cholecystitis, post-ERCP perforation, post-ERCP bleeding, and post-ERCP mortality were not significantly higher in IBD patients when compared to controls. ERCP may be safe in patients with IBD; however, to decrease complications such as post-ERCP infection and pancreatitis, we need to consider antibiotic prophylaxis, peri-procedural fluid resuscitation, and NSAID suppositories in patients with IBD. More prospective research would be useful to further elucidate these relationships.

Table 1: Demographic of patients undergoing ERCP

| | | IBD | | | | | | |
|--|---------------------------|--------|---------------------------------|------|--------|----------------------------------|------|---------|
| | | Median | Absent Standard Deviation | % | Median | Present Standard Deviation | % | P-value |
| Age in years at admission | | 57 | 17.7 | | 57 | 17.5 | | 0.689 |
| Sex | Male | | | 51 | | | 51 | 1 |
| | Female | | | 49 | | | 49 | |
| Race | White | | | 83.7 | | | 83.6 | 1 |
| | Black | | | 8.2 | | | 8.2 | |
| | Hispanic | | | 4.9 | | | 4.8 | |
| | Asian/Pacific Islander | | | 1.1 | | | 1.1 | |
| | Native American | | | 0.1 | | | 0.1 | |
| | Other | | | 2.1 | | | 2.2 | |
| | | | | | | | | |
| Insurance | Medicare | | | 40.6 | | | 41 | <0.001 |
| | Medicaid | | | 15.9 | | | 8.6 | |
| | Private insurance | | | 36.4 | | | 43.2 | |
| | Self-pay | | | 4.2 | | | 3.4 | |
| | No charge | | | 0.4 | | | 0.3 | |
| | Other | | | 2.5 | | | 3.4 | |
| Hospital Size | Small | | | 15.4 | | | 8.3 | <0.001 |
| | Medium | | | 24.7 | | | 20.7 | |
| | Large | | | 59.9 | | | 71 | |
| Region of hospital | Northeast | | | 67.9 | | | 23.8 | <0.001 |
| | Midwest | | | 23.1 | | | 21.2 | |
| | South | | | 7.9 | | | 34.9 | |
| | West | | | 1.1 | | | 20.2 | |
| Hospital Location & Teaching Status | Rural | | | 4.2 | | | 3.7 | <0.001 |
| | Urban nonteaching | | | 16.7 | | | 26.9 | |
| | Urban teaching | | | 79.1 | | | 69.4 | |
| Died during hospitalization | Alive | | | 98.9 | | | 98.6 | 0.473 |
| | Dead | | | 1.1 | | | 1.4 | |
| Length of stay (days) | | 4 | 8 | | 5 | 11.9 | | <0.001 |
| Total charges (\$) | | 43994 | 90996 | | 42737 | 89402 | | 0.025 |
| Median household income national quartile for patient ZIP | 0-25th | | | 19.3 | | | 21.1 | 0.287 |
| | 26-50th | | | 24.8 | | | 23.5 | |
| | 51-75th | | | 25.2 | | | 26.4 | |
| | 76-100th | | | 30.7 | | | 29 | |